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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,809	02/05/2004	Kazuya Fujita	60803(49381)	8452
7590 06/26/2006				
DAVID G. CONLIN, ESQ. EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER LOUIE, WAI SING	
			ART UNIT 2814	PAPER NUMBER

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/773,809

Applicant(s)

FUJITA ET AL.

Examiner

Wai-Sing Louie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16,30-38 and 48-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16,30-38 and 48-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/24/06</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 9, 13-15, 30, 32-35, 37, 48, and 50-51 are rejected under 35 U.S.C. 102(e) as being anticipated by Beyne et al. (US 6,566,745).

With regard to claims 1, 6, and 51, Beyne et al. disclose an image sensor device (col. 5, line 30 to col. 12, line 12 and fig. 1) comprising:

- A solid state imaging device 62 (col. 8, line 19) having an effective optical sensitive area (pixels) in one surface (col. 8, lines 35-39 and fig. 6);
- A light-transparent cover 61 arranged opposite to the effective pixel region and having planar dimension smaller than those of the solid state imaging device 62 (fig. 6);
- An adhering section 65 for adhering the solid-state image pickup device 12 and light transparent cover 11 (col. 6, lines 21-24).

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- Connection terminals 909, the adhering section 65 disposed at least a portion of a region where the cover 61 opposes the pickup device 62 and such that the connection terminals 909 are exposed (fig. 9).

With regard to claims 3-5, 9, 13-15 Beyne et al. disclose a space is formed between the effective pixel region 62 and the light-transparent cover 61 and where the adhering section 65 is formed outside the effective pixel region 12 and seal the outer periphery of the space (fig. 6).

With regard to claim 7, Beyne et al. disclose the light-transparent plate 61 is divided so as to form light-transparent covers each have planar dimensions smaller than those of the solid state image pickup device (fig. 6a to fig. 6d).

With regard to claims 30, 32, and 37, Beyne et al. disclose an image sensor package device (col. 5, line 31 to col. 12, line 24 and fig. 6) comprising:

- A wiring board 66 on which wiring is formed (col. 8, lines 5-45 and fig. 6 and 9);
- An image processor 62 adhered to the wiring board 66 and electrically connected to the wiring (col. 8, lines 5-45 and fig. 6);
- A solid state (CMOS) imaging device in which a light transparent cover 61 having planar dimensions smaller than those of a solid state image pickup device 62 is attached opposite to the effective pixel region of the solid state image pickup device, and which is adhered to the image processor 62 and electrically connected to the wiring (fig. 6);
- A sealing section 65 for resin sealing the wiring board 66 (col. 8, lines 24-30), the image processor and the solid state image device 62 in a state that the surface of the light transparent cover 61 is exposed (fig. 5i);

- An optical path-defining unit 613 arranged opposite to the solid state-imaging device 62 and defining an optical path to the solid-state device (fig. 6f).

With regard to claim 33, Beyne et al. disclose the image processor 62 adhere the wiring board 66 and the external terminal connected to the wiring (fig. 6g and 9). Inherently, the external terminals are reverse to the wiring on the surface of the wiring board that the image processor adhered to.

With regard to claim 34, Beyne et al. disclose the external terminal has a protruding shape in form of a solder ball (fig. 6h).

With regard to claim 35, Beyne et al. disclose a wiring board 66 on which wiring is formed and where the external terminal 67 of the module component wiring board is connected to the wiring of the wiring board (fig. 6h and 9).

With regard to claim 48, Beyne et al. disclose the adhering section 65 comprises resin 65 (polymeric underfill in col. 8, line 41).

With regard to claim 50, Beyne et al. disclose the light-transparent cover 61 is planar (fig. 6).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 10-12, 31, 36, 38, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beyne et al. (US 6,566,745) in view of Hashimoto (US Pub. 2003/0123779).

With regard to claims 2, 8, 10, 12, and 49, Beyne et al. disclose the epoxy is heat cured (col. 11, lines 55-64), but do not disclose the adhesive is a photosensitive adhesive. However, Hashimoto discloses using ultraviolet light adhesive (Hashimoto paragraph [0089]). Hashimoto teaches using UV-cured adhesive could temporarily cured for easy handling the device (Hashimoto paragraph [0089]). Therefore, it would have been obvious to one of ordinary skill in the art to modify Beyne's device with the teaching of Hashimoto to use the photosensitive adhesive in the adhering section in order to handle the temporarily cured device with easy.

With regard to claim 11, 31, 36, and 38, in addition to the limitations disclosed in claims 1 and 6 above, Beyne et al. modified by Hashimoto also disclose:

- Beyne et al. modified by Hashimoto disclose a lens 78 inside a lens retainer arranged opposite to the light transparent cover of the solid state-imaging device (Hashimoto paragraph [0111] and fig. 9).

### ***Response to Arguments***

Applicant's arguments filed 4/11/06 have been fully considered but they are not persuasive.

- Applicant argues that Beyne et al. do not disclose exposing the connection terminals. However, in fig. 9, Beyne et al. clearly shows the connection terminals

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909 on the peripheral of the chip 92 is exposed and bond-wired to the solder ball 97 (see fig. 9).

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

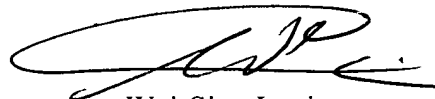
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Wai-Sing Louie', with a stylized flourish at the end.

Wai-Sing Louie  
Patent Examiner

Wsl  
June 20, 2006.